Typical Antioxidant Analysis

Gamma Oryzanol (2200-3000ppm)
Gamma Oryzanol is not a single component. It is a mixture of 20 components having different antioxidant properties.

Cycloartenol *trans*-ferulate
Cycloartenol *cis*-ferulate
Cycloartanol *trans*-ferulate
Cycloartanol *cis*-ferulate
Cycloeucalenol *trans*-ferulate
Cycloeucalenol *cis*-ferulate
24-Methylenecycloartanol *trans*-ferulate
24-Methylenecycloartanol *cis*-ferulate
24-Methylcholesterol *trans*-ferulate
24-Methylcholesterol *cis*-ferulate
β - Sitosterol *trans*-ferulate
β - Sitosterol *cis*-ferulate
β - Sitostenol *trans*-ferulate
β - Sitostenol *cis*-ferulate
Stigmasterol *trans*-ferulate
Stigmasterol *cis*-ferulate
Stigmastenol *trans*-ferulate
Stigmastenol *cis*-ferulate
Campesterol *trans*-ferulate
Campesterol *cis*-ferulate

Tocopherols and Tocotrienols (220-320ppm)
Tocopherols and tocotrienols belong to the same chemical group but exist in 10 different isomeric forms having different antioxidant properties.

α - Tocopherol
β - Tocopherol
γ - Tocopherol
δ - Tocopherol
α - Tocotrienol
β - Tocotrienol
γ - Tocotrienol
δ - Tocotrienol
Desmethyl-tocotrienol
Didesmethyl tocotrienol

Polyphenols
Ferulic acid
α - Lipoic acid
Methyl ferulate
ρ - Coumaric acid
ρ - Sinapic acid
Isovitexin
Proanthocyanidins

Metal Chelators
Magnesium (6250-8440)
Calcium (303-500)
Phosphorous (14700-17000)

Carotenoids (0.9-1.6ppm)
α - Carotene
β - Carotene
Lycopene
Lutein
Zeaxanthine

Phytosterols (21Components) (2230-4400ppm)
β - Sitosterol
Campesterol
Stigmasterol
Sitostenol
Δ^5 - Avinasterol
Δ^7 - Stigmastenol
Sterol glucoside
Acylsterol glucoside
Oligoglycosylsterol
Monoglycosylsterol
Cellotetraosylsitosterol
Methylsterol
Dimethylsterol
Gramisterol
Isofucosterol
Obtusifoliol
Branosterol
28-Homotyphasterol
28-Homosteasteronic acids
6-Deoxycastasterone
β - Amyrin

Amino Acids
Tryptophan (2100)
Histidine (3800)
Methionine (2500)
Cystein (336-448)
Cystine (336-448)
Arginine (10800)

B-Vitamins
Thiamin (22-31)
Riboflavin (2.5-3.5)
Niacin (370-660)
Pantothenic acid (36-50)
Pyridoxine (29-42)
Betaine
Dimethyl glycine
Inositol (12000-18,800)
Biotin (0.1-2.2)
Choline (930-1150)
Folic acid (0.20-0.30)
Phytates (1500-1750)

Polysaccharides
Cycloartenol-ferulic acid glycoside
Diferulic acid complex
Diferulic acid-calcium complex
Hemicelluloses
Arabinogalactan
Arabinoxylan
Xyloglucan
Proteoglycan
Glycoprotein
Arabinofuranoside

Phospholipids
Phosphatidylserine
PhosphatidylCholine
Phosphatidylethanolamine
Lysophophatidylcholine
Lysophosphatidylethanolamine

Enzymes
Glutathione peroxidase
Methionine reductase
Superoxide dismutase
Polyphenol oxidase
Catalase
Coenzyme Q10
Aspartate amino transferase Isozyme AAT-1 & AAT-2